

WHAT IS CLAIMED IS:

1. A hair treatment device comprising:
  - a generator of electromagnetic radiation; and
  - optical guide componentry operatively connected to said generator so as to direct electromagnetic radiation from said generator away from entering a skin surface and in a direction substantially parallel to said skin surface, to impinge on hair fibers protruding from the skin surface.
2. The device defined in claim 1, further comprising a control unit operatively connected to said generator for controlling same to produce said electromagnetic radiation in bursts of light pulses, each of said bursts having a predetermined number of pulses of light for treating the hair fibers protruding from said skin surface.
3. The device defined in claim 2 wherein the hair fibers targeted by said optical guide componentry with electromagnetic radiation from said generator protrude from a measurable area of said skin surface, the pulses of each of said bursts have a total energy is between approximately 0.1 Joule and approximately 100 Joules of energy per square centimeter of said skin surface.
4. The device defined in claim 3 wherein said pulses of light have a total duration between approximately 1 nanosecond and approximately 3 seconds.

5. The device defined in claim 4 wherein the light of said pulses is incoherent and includes a range of wavelengths between about approximately 200 nm and approximately 1200 nm.

6. The device defined in claim 4 wherein the light of said pulses is incoherent and includes a range of wavelengths longer than about approximately 800 nm.

7. The device defined in claim 1 wherein said generator and said optical guide componentry are mounted to a casing, said casing defining a light application chamber receiving the hair fibers protruding from said skin surface, said casing being provided with shielding to prevent leakage of electromagnetic radiation from said chamber.

8. The device defined in claim 7, further comprising:  
a control unit mounted to said casing and operatively connected to said generator for controlling the operation thereof; and

at least one sensor mounted to said casing for detecting engagement of said casing with said skin surface about said chamber,

said sensor being operatively connected to said control unit for informing said control unit as to a state of engagement of said casing with said skin surface, whereby said control unit is enabled to interrupt production of said electromagnetic radiation in the event of possible leakage of radiation from said chamber.

9. The device defined in claim 7 wherein said shielding includes light-absorbing material.

10. The device defined in claim 1 wherein said generator and said optical guide componentry are mounted to a casing, further comprising hair elevation means mounted to said casing for inducing hair on said skin surface to stand away from said skin surface.

11. The device defined in claim 10 wherein said hair elevation means includes a component taken from the group consisting of a suction source; a vibrator mechanism; a magnet and a device for applying a magnetic composition to hair on said skin surface; and a charge generator for investing a flowable composition with an electric charge and a dispenser for applying the charged composition to hair on said skin surface.

12. The device defined in claim 1 wherein said optical guide componentry includes a mirror.

13. The device defined in claim 1, further comprising a control unit operatively connected to said generator for inducing said generator to produce at least two temporally spaced bursts of electromagnetic radiation, one of said bursts having characteristic parameters including a spectral composition, intensity, and pulse duration effective to generate, in hair shafts protruding from said skin surface, heat energy transmissible along the hair shafts to weaken the same below said skin surface, another of said bursts having characteristic parameters including a spectral composition, intensity, and pulse duration effective to sever the hair shafts above said skin surface.

14. The device defined in claim 1, further comprising a control unit operatively connected to said generator for inducing said generator to produce electromagnetic radiation having characteristic parameters including a spectral composition, intensity, and pulse duration effective to generate, in hair shafts protruding from said skin surface, heat energy transmissible along the hair shafts to weaken the same below said skin surface.

15. The device defined in claim 1, further comprising a control unit operatively connected to said generator for inducing said generator to produce electromagnetic radiation having characteristic parameters including a spectral composition, intensity, and pulse duration effective to sever the hair shafts above said skin surface.

16. The device defined in claim 1 wherein said generator and said optical guide componentry are mounted to a casing, further comprising:

a reservoir of dye in said casing; and  
a dispenser mounted to said casing, said dispenser being in communication with said reservoir for applying said dye to hairs along said skin surface prior to an application of electromagnetic radiation to the hairs via said optical guide componentry.

17. A hair treatment method comprising:  
generating electromagnetic radiation having a predetermined spectral composition and a predetermined intensity in a predetermined number of light pulses each having a predetermined duration, said light pulses having a predetermined total energy; and

directing the generated light pulses from said generator away from entering a skin surface and in a direction substantially parallel to said skin surface, to impinge on hair fibers protruding from the skin surface.

18. The method defined in claim 17 wherein the hair fibers protrude from a measurable area of said skin surface, said total energy being between approximately 0.1 Joule and approximately 100 Joules of energy per square centimeter of said skin surface.

19. The method defined in claim 18 wherein said pulses of light have a total duration between approximately 1 nanosecond and approximately 3 seconds.

20. The method defined in claim 19 wherein the light of said pulses is incoherent and includes a range of wavelengths between about approximately 200 nm and approximately 1200 nm.

21. The method defined in claim 19 wherein the light of said pulses is incoherent and includes a range of wavelengths longer than about approximately 800 nm.

22. The method defined in claim 17, further comprising delivering a second form of energy to said hair fibers to cause the same to stand away from said skin surface, the delivering of said second form of energy including an action taken from the group consisting of applying suction to said hair fibers, vibrating said skin surface, magnetizing said hair fibers, and applying an electrostatic charge to said hair fibers.

23. The method defined in claim 17 wherein the directing of the generated light pulses includes reflecting said light pulses from a mirror.

24. The method defined in claim 17 wherein said light pulses include at least two temporally spaced bursts of electromagnetic radiation, one of said bursts having characteristic parameters including a spectral composition, intensity, and pulse duration effective to generate, in hair shafts protruding from said skin surface, heat energy transmissible along the hair shafts to weaken the same below said skin surface, another of said bursts having characteristic parameters including a spectral composition, intensity, and pulse duration effective to sever the hair shafts above said skin surface.

25. The method defined in claim 17 wherein said light pulses have characteristic parameters including a spectral composition, intensity, and pulse duration effective to generate, in hair shafts protruding from said skin surface, heat energy transmissible along the hair shafts to weaken the same below said skin surface.

26. The method defined in claim 17 wherein said light pulses have characteristic parameters including a spectral composition, intensity, and pulse duration effective to sever the hair shafts above said skin surface.

27. The method defined in claim 17, further comprising applying a dye to hair along said skin surface prior to the directing of the generated light pulses.